

Appendix A.

SPECIFICATIONS FOR PAVING OF OFF-STREET PARKING AND LOADING AND/OR UNLOADING AREAS

All new off-street parking facilities shall be paved with asphalt or portland cement concrete and shall be designed and constructed in accordance with the standards and procedures herein established.

A. *ASPHALT CONCRETE PAVEMENT:*

1. General Design Requirements—

- a. Asphalt concrete pavements shall consist of specified thickness of asphalt concrete surface course and a base course, or courses, all constructed on prepared subgrade. Pavement thickness required shall be determined from Table 1 of the appropriate subgrade soil and traffic use.
- b. Paved areas shall be so designed and constructed that water will quickly drain from the surface and be conducted away from the area through approved systems. Transverse and/or longitudinal slopes of not less than 5/8 inch in 10 feet shall be provided. For large paved areas, approved catch basins and storm drainage systems shall be provided.
- c. When the pavement includes a granular base, and the pavement is not constructed over granular subgrade, perimeter subsurface drainage shall be provided to prevent lateral flow of water into the base course and to provide for removal of seepage water that may enter the base.
- d. Successive layers of the pavement shall be offset from the edge of the underlying layer a distance equal to the course thickness of the lower layer except when abutting existing construction. When the asphalt layers of the pavement abut a building foundation, barrier curb or similar vertical surface, the abutting surface shall be heavily painted with asphalt prior to construction of the asphalt course. The surface course shall be finished ¼ inch above adjacent flush construction to permit proper compaction.

TABLE A-1

**THICKNESS REQUIREMENTS OF SURFACE AND BASE COURSES
FOR AUTOMOBILE AND TRUCK PARKING FACILITY PAVEMENTS
(1)**

| FULL-DEPTH ASPHALT CONCRETE | | ASPHALT CONCRETE WITH GRANULAR BASE | | | |
|--------------------------------|----------------|--|------|---------------------------|------------------|
| VEHICLE TYPE | SOIL CLASS. | SURFACE | BASE | ASPHALT SURF. AND BASE | GRANULAR BASE |
| Auto | A | 1 ½ | 2 | - | - |
| Parking | B | 1 ½ | 3 ½ | 3 | 4 |
| Facilities | C | 1 ½ | 4 ½ | 3 | 6 |
| Truck | A | 1 ½ | 3 ½ | 3 | 4 |
| Parking | B | 1 ½ | 5 ½ | 4 | 6 |
| Facilities | C | 1 ½ | 6 ½ | 4 | 8 |

1. Soils are classified into three groups indicating their relative effectiveness as subgrade:
 - A - Granular soils that drain well; sand, gravel or combination of sand and gravel; generally, soils having a California Bearing Ratio (CBR) greater than 10, or having AASHO Soil Classification of A-1, A-2-6, A-2-5, A-2-4, or A-3, and some A-4 soils.
 - B - Silty clays, or lean clays, that retain considerable strength when wet. These are average subgrade soils; generally soils having a CBR greater than 5 or having an AASHO Soil Classification of A-2-7, A-4, A-7-5, and some A-5 and A-6 soils.
 - C - Heavy clay soils that lose most of their strength when wet; having an AASHO Soil Classification of A-5, A-6, or A-7-6.
2. Construction Materials and Procedures -
 - a. Base courses shall consist of one or more of the following materials. Construction procedures shall conform to the requirements applicable to the base course selected.
 1. Asphalt Concrete Base Course - Materials and construction shall conform to the current requirements of the Kentucky Department of Transportation, Bureau of Highways' Specifications for Asphalt Concrete Base Course, Class I, except as noted herein.
 - b. Asphalt Treated Base Course - Materials and construction procedures shall conform to the following requirements:

1. Hot-mix sand asphalt base material may be substituted for asphalt concrete base in a ratio of 1.3 inches of sand-asphalt base per inch of asphaltic concrete base.
 2. Liquid and emulsified asphalt bases, designed and mixed in accordance with the Asphalt Institute Asphalt Mixed-In-Place Manual, may be substituted for asphaltic concrete base in a ratio of 1.4 inches of liquid or emulsified asphalt base per inch of asphaltic concrete base.
- c. Crushed Stone Base Course -
1. Crushed stone base course shall conform to all the current requirements of the Kentucky Bureau of Highways for Dense Graded Aggregate Base Course.
- d. Asphalt Concrete Surface Course - Materials and construction shall conform to the current requirements of the Kentucky Bureau of Highways for Asphalt Concrete Surface, Class I.
- e. Asphalt Prime and Tack Coat -
1. Asphalt Prime shall conform to the Kentucky Bureau of Highways' requirements for Cutback Asphalt Emulsion Primer Type L. Prime shall be applied to the surface of granular base course, as directed by the legislative body's engineer.
 2. Tack Coat shall meet the current requirements of the Kentucky Bureau of Highways. Tack coat shall be applied, upon direction of the legislative body's engineer, to the surface of asphalt courses that have become dusty or dry.

B. SOIL-CEMENT BASE COURSE (WITH ASPHALT CONCRETE SURFACE):

1. Description: Soil-cement base course shall consist of soil and cement uniformly mixed, moistened, compacted, finished, and cured in accordance with the specifications herein, and it shall conform to the lines, grades, thickness and typical cross section, shown on the plans. Soil-cement base course, mixed and applied as directed by the legislative body's engineer, may be substituted for granular base course in the ratio of 1.5 inches of soil-cement base to one inch granular base course.

C. CONCRETE PARKING AREAS:

- 1. General Requirements - Thickness of concrete parking shall be:**
 - a. A minimum of five (5) inches for passenger cars and panel or pickup truck parking.
 - b. A minimum of six (6) inches for driveways accommodating light trucks and for light truck parking.
 - c. A minimum of seven (7) inches for heavier commercial or industrial needs.

2. General Requirements - Concrete mix (for areas subject to freeze/thaw conditions).

- a. Minimum cement content - 564 lb./cu. yd. (6 U.S. bags)
- b. Maximum size of aggregate - 1 ½ inches
- c. Maximum water content - 0.49 lb./1 lb. of cement (5.5 gal./bag)
- d. Maximum Slump - Four (4) inches
- e. Air entrainment -

| f. | Maximum Size Aggregate (inches) | Entrained Air (Percent) |
|----|------------------------------------|----------------------------|
| | 1-1/4 | 5 ± 1 |
| | ¾, 1 | 6 ± 1 |
| | 3/8, ½ | 7-1/2 ± 1 |

3. Construction Procedures:

- a. All soft and yielding material and other portions of the subgrade which will not compact readily when rolled or taped shall be removed and replaced with suitable material, placed and compacted. The subgrade shall be thoroughly compacted with suitable equipment so as to have uniform density at moisture contents of not less than standard optimum (AASHTO-T98).
- b. Longitudinal joint spacing shall not exceed 12.5 feet.
- c. Transverse joint spacings shall be at regular intervals of twenty (20) feet.
- d. All transverse construction joints shall have a depth equal to one-fourth of the pavement thickness.
- e. Form offsets at radius points shall be at least two (2) feet.
- f. Pavement joints must be continuous through the curbs.
- g. Where curbs are required they shall be cast integrally.
- h. The pavement shall be struck-off, consolidated, and finished to the grades shown on the plans. All catch basins and manhole castings shall be boxed out and separated from the pavement with expansion joint material. All except premolded or sawed joints shall be edged with a tool having a maximum radius of 1/8 inch. Sawed and formed joints shall be cleaned and sealed before opening to traffic. Final surface texture shall be that obtained with a burlap drag. Curing shall be that obtained with a uniform coverage of white membrane curing compound or by seven-day coverage of white polyethylene or waterproof paper. The completed pavement shall be closed to traffic for seven (7) days.